



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,196	02/26/2002	Jon W. Headrick	P00629-US-0 (13929.0007)	5669
22446	7590	05/02/2005	EXAMINER ZIMMERMAN, JOHN J	
ICE MILLER ONE AMERICAN SQUARE BOX 82001 INDIANAPOLIS, IN 46282			ART UNIT 1775	PAPER NUMBER

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,196

Applicant(s)

HEADRICK ET AL.

Examiner

John J. Zimmerman

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/11/05 (election of Group I).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 25-60, 63 and 64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24, 61 and 62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/3/02, 8/29/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS-11/8/04, IDS-12/21/04.

## **FIRST OFFICE ACTION**

### ***Election/Restrictions***

1. Claims 1-24 and 61-64 have been elected for prosecution in this application. Claims 25-60 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on April 11, 2005. It is noted that method claims 63-64 were inadvertently included in article claim Group I in the restriction requirement mailed January 28, 2005. Therefore method claims 63-64 have also been withdrawn from the article Group I and only Group I article claims 1-24 and 61-62 will be treated on the merits in this prosecution.

### ***Information Disclosure Statement***

2. The Information Disclosure Statement filed April 3, 2002 has been considered with the exception of the foreign patent documents listed on page 4 of 4 of form PTO 1449. These foreign documents were not scanned into the electronic file of this application. A search of the original correspondence has been conducted and copies of these foreign documents have not been located. Should applicants wish to ensure consideration of these foreign documents in this prosecution, applicants may wish to resubmit copies of the foreign documents in the applicants' response to this First Office Action. The Information Disclosure Statement filed August 29, 2002 has been considered. The Information Disclosure Statement filed November 8, 2004 has

been considered. The Information Disclosure Statement filed December 21, 2004 has been considered. Copies of the initialed forms PTO-1449 of these information disclosure statements are enclosed with this First Office Action.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 12-24 and 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claim 12, the phrase "and the like" (e.g. claim 12, line 1) renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claim unascertainable. *Ex parte Caldwell*, 1906 C.D. 58 (Comm'r Pat. 1906). See MPEP § 2173.05(b). Since the applicant's disclosure contains no guidance as to how "and the like" must be interpreted, the phrase is indefinite. Claims depending on claim 12 incorporate the indefinite matter.

***Claim Rejections - 35 USC § 102/103***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1775

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-24 and 61-62 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Li (U.S. Patent Application Publication 2002/0142202).

9. Li discloses making battery electrodes from fibers produced by milling (e.g. paragraph [0053]) a zinc or zinc alloy block (e.g. see paragraph [0054]) to a preferred 5-7.5 mm length (e.g. see claim 12). While the reference may not recite "CNC milling", there is no evidence of record

Art Unit: 1775

that generic "CNC milling" necessarily results in a fiber product that would be patentably distinct from the fibers of the reference. In addition, there is no evidence of record of any specific fiber structure is necessarily produced by the generic recitation of controlling the position of the cutting tool relative to a particular Y-axis, X-axis or Z-axis. Nor is there evidence of record that the composition of the cutting tool, shape of the cutting tool or the use of a plurality of pieces of stock material necessarily results in any specific fiber structure that would be patentably distinct from the fiber structure that would result from the milling process of the applied prior art. The generic recitations of the applicant's process steps and process parameters is noted, but the pending claims are product claims and there is no factual evidence of record that the generic recitation of the applicant's process steps and parameters necessarily results in a patentably distinct product commensurate with the scope of the specifically claimed process steps and parameters in the product claims. There is no evidence of record that the fibers of the reference would not be a "consistent" width, depth and length. The generic recitation of term "consistent" in the claims does not require that the width, depth and length fall within any particular width, depth or length distribution range. When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. 102 or on prima

Art Unit: 1775

facie obviousness under 35 U.S.C. 103, jointly or alternatively, and Patent and Trademark

Office's inability to manufacture products or to obtain and compare prior art products evidences

fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). See MPEP 2112-2113.

10. Claims 1-24 and 61-62 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sugikawa (U.S. Patent 6,110,417).

11. Sugikawa discloses making battery electrodes from a fibers (e.g. zinc - column 7, lines 27-40) produced by "chattering-vibration method for cutting a metallic bar" (i.e. a type of milling process: column 7, lines 41-47) to a short lengths (e.g. see typical fiber dimensions: column 25, line 43 - column 26, line 65). While the reference may not recite "CNC milling", there is no evidence of record that generic "CNC milling" necessarily results in a fiber product that would be patentably distinct from the fibers of the reference. In addition, there is no evidence of record of any specific fiber structure is necessarily produced by the generic recitation of controlling the position of the cutting tool relative to a particular Y-axis, X-axis or Z-axis. Nor is there evidence of record that the composition of the cutting tool, shape of the cutting tool or the use of a plurality of pieces of stock material necessarily results in any specific fiber structure that would be patentably distinct from the fiber structure that would result from the cutting process of the applied prior art. The generic recitations of the applicant's process steps and process parameters is noted, but the pending claims are product claims and there is no factual evidence of record that the generic recitation of the applicant's process steps and parameters necessarily results in a

Art Unit: 1775

patentably distinct product commensurate with the scope of the specifically claimed process steps and parameters in the product claims. There is no evidence of record that the fibers of the reference would not be a "consistent" width, depth and length. The generic recitation of term "consistent" in the claims does not require that the width, depth and length fall within any particular width, depth or length distribution range. When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. 102 or on prima facie obviousness under 35 U.S.C. 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). See MPEP 2112-2113.

12. Claims 1-24 and 61-62 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Darland (U.S. Patent 3,672,998).

13. Darland discloses making battery anodes from zinc fibers made by milling (e.g. see column 6, lines 2-17) in dimensions of 1/4"-1" (e.g. see column 6, lines 18-34). While the



Art Unit: 1775

reference may not recite "CNC milling", there is no evidence of record that generic "CNC milling" necessarily results in a fiber product that would be patentably distinct from the fibers of the reference. In addition, there is no evidence of record of any specific fiber structure is necessarily produced by the generic recitation of controlling the position of the cutting tool relative to a particular Y-axis, X-axis or Z-axis. Nor is there evidence of record that the composition of the cutting tool, shape of the cutting tool or the use of a plurality of pieces of stock material necessarily results in any specific fiber structure that would be patentably distinct from the fiber structure that would result from the milling process of the applied prior art. The generic recitations of the applicant's process steps and process parameters is noted, but the pending claims are product claims and there is no factual evidence of record that the generic recitation of the applicant's process steps and parameters necessarily results in a patentably distinct product commensurate with the scope of the specifically claimed process steps and parameters in the product claims. There is no evidence of record that the fibers of the reference would not be a "consistent" width, depth and length. The generic recitation of term "consistent" in the claims does not require that the width, depth and length fall within any particular width, depth or length distribution range. When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden

Art Unit: 1775

of proof is on applicants where rejection based on inherency under 35 U.S.C. 102 or on prima facie obviousness under 35 U.S.C. 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). See MPEP 2112-2113.

14. Claims 1-10, 12-21, 23-24 and 61-62 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese publication 48-21216.

15. Japanese publication 48-21216 discloses making battery anodes from a fiber mixture including zinc fibers produced by "beating, cutting or melt spinning" to a 10-50 micron diameter and 100 mm length (e.g. see abstract and entire disclosure). While the term "milling" may not be used by the reference, fiber "milling" is a process of cutting metal fibers from a metal substrate and therefore the metal fibers of the reference made by "cutting" would most likely have been interpreted by one of ordinary skill in the art at the time the invention was made to be fibers made by a "milling" process. In any event, unless shown otherwise, one of ordinary skill in the art would expect metal fibers made by "cutting" to be the same as or indistinct from fibers generically made by "milling". While the reference may not recite "CNC milling", there is no evidence of record that generic "CNC milling" necessarily results in a fiber product that would be patentably distinct from the fibers of the reference. In addition, there is no evidence of record of any specific fiber structure is necessarily produced by the generic recitation of controlling the position of the cutting tool relative to a particular Y-axis, X-axis or Z-axis. Nor is there evidence

of record that the composition of the cutting tool, shape of the cutting tool or the use of a plurality of pieces of stock material necessarily results in any specific fiber structure that would be patentably distinct from the fiber structure that would result from the cutting process of the applied prior art. The generic recitations of the applicant's process steps and process parameters is noted, but the pending claims are product claims and there is no factual evidence of record that the generic recitation of the applicant's process steps and parameters necessarily results in a patentably distinct product commensurate with the scope of the specifically claimed process steps and parameters in the product claims. There is no evidence of record that the fibers of the reference would not be a "consistent" width, depth and length. The generic recitation of term "consistent" in the claims does not require that the width, depth and length fall within any particular width, depth or length distribution range. When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. 102 or on prima facie obviousness under 35 U.S.C. 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977). See MPEP 2112-2113. Regarding the intended use recitation of a "battery plate" and "for use in an

Art Unit: 1775

electrochemical cell", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In addition, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

16. Claims 1-23 and 61-62 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakagawa (U.S. Patent 4,640,156) or Machijima (Japanese publication 09-183021).

17. Nakagawa discloses milled short fibers (e.g. see Examples 1-4 for specific fiber dimensions and compositions; see claims 1-5 for the milling process). Machijima discloses milled short fibers (e.g. see paragraphs [0002]-[0004] for specific fiber dimensions and compositions; see Figures 1-4 for the milling process). While the reference may not recite "CNC milling", there is no evidence of record that generic "CNC milling" necessarily results in a fiber product that would be patentably distinct from the fibers of the reference. In addition, there is no evidence of record of any specific fiber structure is necessarily produced by the generic recitation

Art Unit: 1775

of controlling the position of the cutting tool relative to a particular Y-axis, X-axis or Z-axis. Nor is there evidence of record that the composition of the cutting tool, shape of the cutting tool or the use of a plurality of pieces of stock material necessarily results in any specific fiber structure that would be patentably distinct from the fiber structure that would result from the milling process of the applied prior art. The generic recitations of the applicant's process steps and process parameters is noted, but the pending claims are product claims and there is no factual evidence of record that the generic recitation of the applicant's process steps and parameters necessarily results in a patentably distinct product commensurate with the scope of the specifically claimed process steps and parameters in the product claims. There is no evidence of record that the milled fibers of the reference would not be a "consistent" width, depth and length. The generic recitation of term "consistent" in the claims does not require that the width, depth and length fall within any particular width, depth or length distribution range. When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q 685, and *In re Fessmann*, 180 U.S.P.Q. 324. Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. 102 or on prima facie obviousness under 35 U.S.C. 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton*,

Art Unit: 1775

*and Shaw*, 195 USPQ 431 (CCPA 1977). See MPEP 2112-2113. Regarding the intended use recitation of a "battery plate" and "for use in an electrochemical cell", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). The fibers of Nakagawa are clearly intended for consolidated articles that could function of a battery plate for an electrochemical cell even if not intended as such (e.g. filters, pads, etc. . .; see column 1, lines 18-34). The fibers of Machijima are clearly intended for consolidated articles that could function of a battery plate for an electrochemical cell even if not intended as such (e.g. filters, pads, etc. . .; see paragraphs [0003]-[0004]). In addition, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

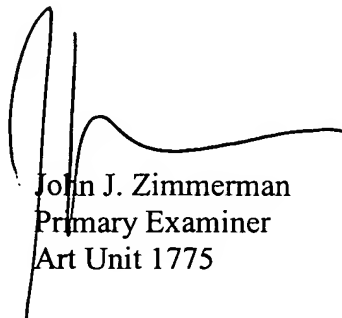
### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited references serve to further establish the level of ordinary skill in the art of milling fibers and making battery plates.

Art Unit: 1775

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John J. Zimmerman  
Primary Examiner  
Art Unit 1775

jjz  
April 25, 2005